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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,297	09/18/2006	Gyuyoung Han	126587-06112471	8438
22429 7590 12/14/2007 LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314			EXAMINER LIU, HARRY K	
			ART UNIT 3662	PAPER NUMBER
			MAIL DATE 12/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/593,297

Applicant(s)

HAN ET AL.

Examiner

Harry Liu

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-22 and 24-38 is/are rejected.
- 7) ☒ Claim(s) 8, 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/11/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in (Korea) on (3/17/2004). It is noted, however, that applicant has not filed a certified copy of the (Korean) application as required by 35 U.S.C. 119(b). In order to fully meet the requirements of 119(b) a **translation** of the foreign priority document is required. MPEP 2304.01(c)

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action, 37 CFR 41.154(b) and 41.202(e). Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 9-12, 17-22, 24-28, 33-34 are rejected under 35 U.S.C. 102(b/e) as being anticipated by Stein (2003/0008669) or Lin (2004/0219930).

Regarding claims 1-2, 10, 17-18, 26, 33, Stein discloses a terminal positioning in a global positioning system (GPS) satellite-invisible area (repeaters are commonly used in indoor which is satellite-invisible, paragraph 0007) in a code division multiple access (CDMA) or **W-CDMA** (paragraph 0006) mobile communication network by using a terminal, a plurality of location detectors (LDs) (RUs, Fig. 1b) for generating and sending offsets (PN generator, paragraph 0070), a position determination entity (PDE,

FIG. 1) for controlling a position determination of the terminal and an LD mapping server including a position information database (PDE), comprising the steps of:

(a) allowing the terminal which received a positioning request to obtain a reference pilot signal (different PN offset, delayed, paragraph 0017 & 0071) of a base transceiver station or a repeater and LD pilot signals generated from the location detectors (PN generator, paragraph 0070);

(b) transmitting information on the reference pilot signal or the LD pilot signals to the PDE by using a pilot strength measurement message (PSMM) if the reference pilot signal or the LD pilot signals are received with a strength not smaller than a predetermined value; CDMA network used PSMM to search for strong PN and add it into the active/candidate set (**T_ADD**);

(c) calculating a chip-based pseudo noise code phase from the PSMM transmitted to the PDE (repeater retransmit with delay based on chips in CDMA, paragraph 0017) (FIG. 5a-5d);

(d) transmitting the pseudo noise code phase to the LD mapping server if the pseudo noise code phase calculated at step (c) is a phase of one of positioning pseudo noise codes allocated for the position determination (paragraph 0010); and

(e) obtaining position information of the terminal by using the pseudo noise code phase transmitted to the LD mapping server (PDE).

Regarding claims 3-7, 19-22, 34, Stein discloses at least two positioning pseudo

noise codes are predetermined (FIG. 5c-5d) and the LD pilot signals are generated by intentionally **adding** offsets to the positioning pseudo noise codes and the offset is not larger than 64 chips(FIG. 5c-5d) .

Regarding claims 9, 24-25, Stein discloses each LD pilot signal includes a time delay component (chip) which is used to identify said each LD pilot signal as a signal with a first arrival path if said each LD pilot signal is received in the terminal (FIG. 5a-5d).

Regarding claims 11-12, 27-28, Stein discloses the information transmitted on reference pilot signals are delayed version of BTS pilot which certainly includes phase and measurement error of PN code.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669).

Regarding claims 14, 30, Stein discloses repeater identification with PN offset (Abstract), repeaters database is typically saved in a server/database specifying its address with names. It would have been obvious to modify Stein with address and name in order to differentiate easier.

5. Claims 13, 15, 29, 31, 35, 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669) in view of Sih (6665539).

Regarding claims 13, 15, 29, 31, 35, 37, Stein, as applied to claims 1, 18 rejections above, discloses all claim limitations except for specifying phase is measured and transmitted on a 1/16 chip basis or traffic state enabling. However, Sih teaches the use of 1/16 chip increments in differentiating delay/phase transition (col. 4. lines 23-31) and location service. It would have been obvious to modify Stein with Sih by incorporating 1/16 chip basis and location service (which needs to put handset in traffic mode) in order to differentiate delay information and receive location assistance.

6. Claims 16, 32, 36, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stein (2003/0008669) in view of Rajkotia (2004/0121774).

Regarding claims 16, 32, 36, 38, Stein, as applied to claims 1, 18 rejections above, discloses all claim limitations except for network sending PMRO to request terminal responds with PSMM. However, Rajkotia teaches sending PMRO for PSMM measuring (paragraph 0071). It would have been obvious to modify Stein with Rajkotia by sending PMRO in order to trigger the terminal to do PSMM.

Allowable Subject Matter

7. Claims 8, 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the LD pilot signals are transmitted with a strength lower than a reference pilot signal are not taught nor obvious over the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry Liu whose telephone number is 571-270-1338. The examiner can normally be reached on Monday -Thursday and every other Friday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-270-2338.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Harry Liu". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Harry Liu
Examiner
Art Unit 3662
December 12, 2007

A handwritten signature in black ink, appearing to read "Thomas H. Tarcza". The signature is cursive and somewhat stylized, with a large initial "T".

THOMAS H. TARCZA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600